REPORT ON ADJUSTMENTS TO THE
SPECIFICATIONS FOR THE EFFECTIVE PRICE FOR

PEANUT REVENUE CROP INSURANCE

AS REQUIRED UNDER THE AGRICULTURAL ACT OF 2014

March 2015

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Introduction

The Agricultural Act of 2014 (the Act) required the Risk Management Agency (RMA) of the United States Department of Agriculture (USDA) to offer revenue insurance as an option for peanut producers. The Act specified that the pricing methodology include the Rotterdam price index, a weekly and monthly price survey maintained to report prices for peanuts and other commodities traded at the Rotterdam port in the Netherlands as well as other locations in Europe.

The Act amends the Federal Crop Insurance Act to provide for revenue insurance for peanuts beginning in 2015. The applicable sections of the Act specify:

> **SEC. 11018. PEANUT REVENUE CROP INSURANCE.**
> The Federal Crop Insurance Act is amended by inserting after section 508B (as added by section 11017), the following:
> ''**SEC. 508C. PEANUT REVENUE CROP INSURANCE.**
> ''(a) IN GENERAL.—Effective beginning with the 2015 crop year, the Risk Management Agency and the Corporation shall make available to producers of peanuts a revenue crop insurance program for peanuts.
> ''(b) EFFECTIVE PRICE.—Subject to subsection (c), for purposes of the revenue crop insurance program and the multiperil crop insurance program under this Act, the effective price for peanuts shall be equal to the Rotterdam price index for peanuts or other appropriate price as determined by the Secretary, as adjusted to reflect the farmer stock price of peanuts in the United States.
> ''(c) ADJUSTMENTS.—
> ''(1) IN GENERAL.— The effective price for peanuts established under subsection (b) may be adjusted by the Risk Management Agency and the Corporation to correct distortions.
> ''(2) ADMINISTRATION.— If an adjustment is made under paragraph (1), the Risk Management Agency and the Corporation shall—
> ''(A) make the adjustment in an open and transparent manner; and
> ''(B) submit to the Committee on Agriculture of the House of Representatives and the Committee on Agriculture, Nutrition, and Forestry of the Senate a report that describes the reasons for the adjustment.''.

On behalf of the Georgia Peanut Commission and the Western Peanut Growers Association, AgriLogic Consulting, LLC (AgriLogic) developed and submitted a peanut revenue program based on an average of prices provided by United States (U.S.) peanut brokers for shelled peanuts traded domestically, instead of the Rotterdam price index. After lengthy review by AgriLogic, an independent panel of experts, and the Federal Crop Insurance Corporation Board of Directors, it was determined that a price series from U.S. peanut brokers would provide a more accurate and direct measure of price for the peanut crop insurance program, since the Rotterdam price index includes transportation and other costs not applicable to the domestic price. This price series has been highly correlated with the Rotterdam series since the U.S. peanut quota program ended. Consequently, it was determined that the U.S. broker price series would be the optimal series to use for the introduction of the revenue crop insurance program for peanuts.

Pursuant to specifications provided in the Act, the purpose of this report is to address the reasons for the adjustment in pricing methodology utilized in the peanut crop insurance program and confirm that the price methodology adheres to the provisions for price determination specified in the Act.

Background

Domestic production of peanuts was governed by a quota program which ended in 2002. Under the quota program, peanut growers had allotments of acreage and production that could be sold. Although peanut quotas were transferable, the program was a barrier to entry in peanut production and limited the prospects of crop substitution in regions where it was feasible to grow peanuts.

With the end of the quota program in the 2002 crop year, peanut growers began experiencing market price variability that was not present for the majority of the U.S. peanut crop prior to the end of the quota program. Although peanuts can be stored for a limited amount of time, farmer stock prices did tend to reflect some of the volatility experienced in the trading of processed peanuts, particularly shelled runner peanuts of various sizes, most of which are ultimately used in peanut butter. Some of the major price disturbances, as illustrated in Figure 1, included: high production years, drought resulting in low stock carryover, a rise in the price of other commodities, and salmonella contamination concerns in certain peanut processing areas that impacted the consumption of peanut products in general.

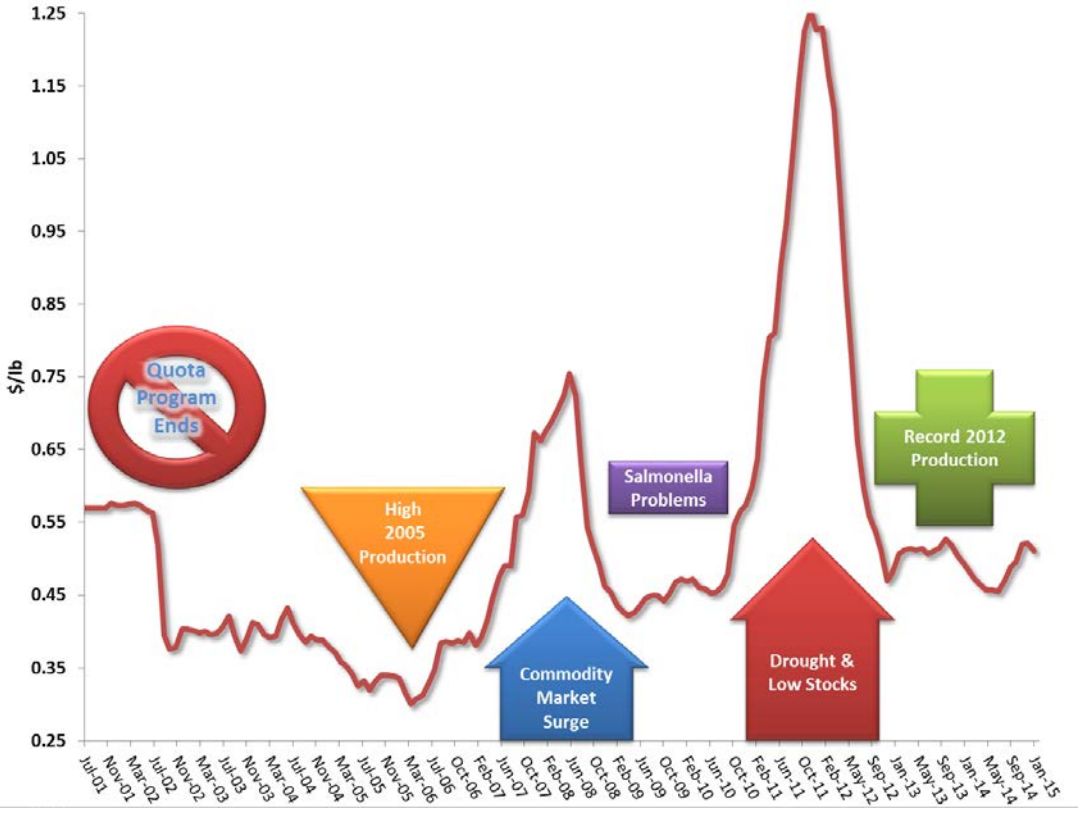

Figure 1: Shelled medium runner peanut prices, in dollars per pound, from 2001 through 2015 (Data Source: domestic peanut brokers)

To offset some of the variability experienced by growers and ensure a stable supply of peanuts, peanut buyers offered contracts on a notable amount of the production. These contracts were typically offered on a portion of the expected crop. For example, a grower who typically produced 3,000 pounds of peanuts per acre in the southeastern U.S., might be offered a contract for the first 1,000 pounds produced with a provision that the contractor had the right of first refusal for

the remaining amount produced on the contracted acreage. Unlike commodity contracts traded on futures exchanges for other crops, if a peanut grower could not produce the contracted amount, the deficit was more often than not forgiven by the contractor (i.e. a peanut sheller). Contracts could be struck prior to planting, at any point during the growing season, or around the time of harvest. If peanut inventories were low and the expected planted acres in an upcoming crop year were low, early season contracts would often reflect higher price expectations to entice growers to plant peanuts in place of other commodities. Conversely, if planted acreage and growing conditions indicated a high production year, mid to late season contracts might be very low or not offered at all. Producers had the recourse of the peanut marketing loan which allowed them to store their production at a low fee and guarantee a floor price for their peanuts. The loan rate has varied by type and year, but has been on average approximately $355 per ton of in-shell farmer stock peanuts.

Peanut Pricing Information

Beginning in 2009, AgriLogic began meeting with members of the Western Peanut Growers Association and the Georgia Peanut Commission to discuss proposing a means to offer federally reinsured revenue crop insurance options for peanut growers in the United States.

A number of different pricing data sources exist that were relevant for consideration in the pricing methodology for the peanut crop insurance program. Some of the various sources included:

- the USDA Agricultural Marketing Service (AMS) shelled runner peanut price;
- the USDA National Agricultural Statistics Service (NASS) weekly and monthly average in-shell farmer stock peanut prices;
- the USDA Farm Service Agency (FSA) weekly national posted prices for in-shell farmer stock peanuts;
- monthly U.S. broker prices for shelled peanuts;
- peanut grower forward price contracts for in-shell farmer stock peanuts offered by shellers;
- the Rotterdam CIF[1] price survey for shelled, medium runner peanuts;
- prices for various other commodities traded on the Chicago Mercantile Exchange (CME) and other futures exchanges; and
- the international prices of shelled peanuts in locations such as Brazil, China, and Argentina.

Some of the advantages and disadvantages of utilizing these various sources are discussed in the following sections.

Farmer Stock Peanuts: Pricing Sources

Farmer Stock Peanuts: FSA Data

Since the conclusion of the quota program, the USDA FSA has published weekly national posted prices for in-shell (farmer stock) peanuts. These prices are published by type—Runner, Spanish, Valencia, and Virginia—and are intended for comparison to the respective loan rates to determine the marketing loan deficiency payments due to peanut producers. This data is based on weekly

[1] CIF-Cost Insurance and Freight price accounting methodology.

input from Rotterdam price survey (discussed later). No trading volume information is collected by the survey.

Farmer Stock Peanuts: NASS Data

NASS publishes peanut prices based on survey responses on a weekly, monthly, and annual basis. Depending on the time period, these are distinguished by peanut type and are provided on a state or national basis. AgriLogic had a series of interactions with the USDA NASS personnel regarding the weekly peanut price survey on which all of these estimates are based. A sample copy of the survey that has been used by NASS since January 2009 was obtained and evaluated. There are two distinct sections in which price information can be recorded. Section 1 represents "Peanuts under Loan Acquired from [State] Producers by Option Contract" and Section 2 is for "Peanuts Acquired from [State] Producers by transactions other than an Option Contract." Each section allows the survey participant to indicate the pounds purchased and total dollars paid for each of the four peanut types. Section 1 also allows space for the average option payment per pound to be recorded. The numbers for each peanut type are combined for each week and the result is the value that NASS publishes. Most of the non-contracted marketing for domestic in-shell peanuts occurs just prior to or after harvest. Consequently, volume associated with any weekly or monthly price estimate for in-shell peanuts is also concentrated at that time.

Even though NASS conducts a weekly survey to ascertain "current" pricing activity for in-shell peanuts, the published prices include information that does not reflect current prices paid to producers. The survey does not inquire about the date on which the redeemed peanuts were put under loan. This date would no doubt represent the end point of the option contract period, but more than likely, the option contract was struck much earlier. For example, if a producer contracted peanuts in December 2013 for the 2014 harvest and then put the peanuts into the USDA loan program in October 2014, the peanuts may not be redeemed for several months (e.g. March 2015). As a result, the price would not be reported to NASS until March 2015. Thus, the price recorded on the survey would represent an option contract struck many months prior to the actual date on which they were reported, which in this example was well over a year in advance. Consequently, the survey might record information on new and old crop contract prices, and if there are few direct open market transactions that week, the resulting survey price would not reflect the contemporary open market value correctly.

The NASS survey data includes useful information, but for the purposes of assessing current market prices, AgriLogic did not believe it should be relied upon as a primary data source. The active market data collected by NASS is imbedded in the published values, and it is not provided as an independent price series. The survey prices are influenced by option contracts of varying age and magnitudes in a given month. Given the inclusion of old contract data in the prices published by NASS, comparison of the NASS data to prices that reflect current activity in the shelled peanut market shows that NASS prices have reflected an approximate nine-month lag in relative price volatility. For example, a notable rise in prices in the shelled peanut market has typically shown up in the in-shell price about nine months later. This tends to correspond to the shelling order of old and new crop peanuts and the time period under which option contracts were struck. This information can be useful in determining a season average option contract premium above the loan rate when the lag is accounted for in the data series.

Shelled Peanuts: Pricing Sources

Information on the price of shelled peanuts at any given point in time is more representative of market conditions and more widely available than for in-shell farmer stock peanuts. The USDA AMS maintained a survey of monthly shelled peanut prices, but it was discontinued in 2006. Additional sources, such as the USDA Foreign Agricultural Service (FAS) and the International Monetary Fund (IMF) regularly publish pricing data for shelled peanuts, but these organizations relied on external sources for their information, which is most notably the Rotterdam CIF price series.

Shelled Peanuts: Rotterdam CIF Price Survey

The Rotterdam CIF price is a weekly and monthly price estimate for shelled, medium runner peanuts originating in the U.S. and traded in Europe at the Netherlands port city of Rotterdam. Oil World, or alternately referred to as ISTA Mielke GmbH in the European Union, is an independent price monitoring company based in Germany which conducts the survey to determine the Rotterdam price estimates for peanuts as well as a number of additional commodities. It has been in business since 1958 conducting commodity price and supply assessments. In correspondence with the editors of the Oil World Report (the source used by the USDA FAS for reporting shelled peanut prices), the survey design for the Rotterdam peanut price is based on a weekly contact of market participants where the price published exhibits the lowest, representative asking price for that week. The weekly survey prices are averaged to identify the monthly reported price. No trading volume information is collected by the survey. The United Kingdom's (UK) Public Ledger also conducts a price survey at Rotterdam to determine shelled peanut prices. This survey does not interact with that of the Oil World survey.

Shelled Peanuts: Monthly Brokerage Prices

The original peanut revenue insurance submission from AgriLogic[2] included data from a major U.S. domestic peanut broker and illustrated that those prices were very similar to the AMS survey data published prior to 2007. Since the AMS series is no longer published and the collection of U.S. broker information would require additional administrative expenses for proper collection and analysis, the initial approach was to use other third-party Rotterdam CIF peanut price data series already regularly published and extensively referenced within the industry. Since the original submission, the pricing methodology was revised to include the utilization of the U.S. broker information. AgriLogic obtained agreements from five major peanut brokers in the United States who are involved in the vast majority of transactions in the domestic peanut market. The peanut brokers have agreed to provide their monthly pricing information to AgriLogic on an ongoing basis, and several of the brokers have also provided their historical data for evaluation. The data obtained have proven to be a valuable source of information of current market prices and are correlated with the Rotterdam CIF peanut price series.

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[2] The Peanut Revenue insurance program was submitted to the Federal Crop Insurance Corporation's Board of Directors as a privately developed product under section 508(h) of the Crop Insurance Act in April 2012. In May, 2014 the submitter provided an amended submission to address concerns stemming from FCIC Board contracted independent expert reviews, and the submission was ultimately approved at the September 2014 Board meeting.

Summary of Pricing Data

Since a well-developed futures exchange does not exist for peanuts as it does with other commodities, it was concluded that a single data source for pricing would not be sufficient for evaluating pricing for the purposes of establishing prices for an insurance program. Each of the peanut pricing sources discussed above exhibit strengths and weaknesses in the exercise of price determination for the peanut revenue crop insurance program options. Understanding the current structure of the peanut industry—where growers privately negotiate prices in a number of ways with cooperatives or with one of the few shelling facilities—assists in forming an understanding of the difficulty of price determination. Therefore, a methodology that uses a combination of the price series discussed was determined to be the most prudent and logical approach for introducing an actuarially sound revenue crop insurance program for peanuts that would provide a representative gauge of price expectations for peanuts prior to the sales closing date while simultaneously limiting any concerns for program abuse.

Application of Peanut Pricing Data

The peanut pricing data discussed in the previous section is used in a process to estimate a formula price for peanuts for the peanut crop insurance program. The first stage involves relating the price of shelled medium runner peanuts in the U.S. to the prices of four commodities actively traded on futures exchanges, which are the December futures contracts for cotton, wheat, soybean oil, and soybean meal, along with additional factors. The second stage involves converting the shelled price estimates to an in-shell price basis. A more detailed discussion of this process can be found in the peanut pricing methodology published on the USDA RMA web site and available at this link: http://www.rma.usda.gov/pubs/2014/peanutmethodology.pdf. In the shelled peanut price estimation stage, the broker-provided pricing data AgriLogic obtained is used in place of the Rotterdam price series as a simplification to the price conversion process, which is discussed below.

The Rotterdam price data for shelled medium runner peanuts is an index of prices paid for U.S. peanuts in the Netherlands port city of Rotterdam. As such, the price reflects a premium paid for U.S. peanuts that are shipped to Europe. The price paid for exported peanuts is typically higher than the price paid for peanuts sold domestically since transaction costs are involved in getting the peanuts to Europe. These would primarily entail shipping and any applicable import or export fees. Where demand exists, sellers would not sell peanuts for the same price both in the U.S. and abroad as a result of these transaction costs. Occasions may arise when market conditions are such that peanuts can be sold internationally at or below the contemporaneously-determined domestic price to move inventory and deal with excess domestic supply and inadequate foreign demand. Regardless, the typical situation entails the addition of a price premium for peanuts shipped and sold abroad.

The originally-considered peanut pricing methodology was to use the shelled peanut price, as reflected by the Rotterdam price series, and convert it to an in-shell-equivalent basis utilizing a prescribed formula. A similar procedure was used to determine peanut prices in the Uruguay Round Agreement of the General Agreement on Tariffs and Trade (GATT) in the late 1980s and

early 1990s[3]. The International Trade Commission (ITC) used a formula[4] to convert prices from a shelled to an in-shell basis which involved applying the percent of edible meat from an in-shell peanut as well as the rate of peanut culling along with deducting the cost of shelling, culling, and shipping.

Applying a formula to elicit an in-shell price from shelled prices requires additional information such as culling and shelling percentages. Given that these may change from year to year depending on the condition of harvested crops as well as changes in both peanut varieties and shelling technology, these values would have to be updated on an annual basis. Values for these percentages, as well as associated annual cost information, including shipping and shelling, were provided to AgriLogic by the major peanut shellers. With this information, the ITC-converted peanut prices could be determined. Once this was done, the resulting prices were compared with other measures of farmer stock peanut prices, including the NASS survey data, to evaluate the reasonableness of the information. It was clear that the ITC conversion process did not always accurately reflect prices received by growers for their harvested crops. One possible reason for this is that the conversion process predated the end of the peanut quota program, so the conditions under which the conversion formula were developed were significantly different than those including the market variability present after the conclusion of that program.

Even though the originally-conceived procedure to assess the farmer stock price of peanuts had limitations, the pricing information was still of great value. One issue that remained with the Rotterdam price series was the necessity to remove transportation and transaction costs. This could still be done because the additional cost information provided by the peanut shellers included per unit shipping costs. Thus, the shipping costs could be deducted to ascertain a price for shelled medium runner peanuts traded domestically.

During the process of evaluating the alternative price series, AgriLogic received additional information and commitments relating to shelled peanut prices. Monthly shelled peanut price data were received from a number of brokers who are involved in the majority of the transactions for shelled peanut in the U.S. Some of these price series include data beginning in the early 1990s during the administration of the quota program. Additionally, the peanut brokers provided written commitments to continue to provide the average prices of their monthly shelled peanut inventories traded.

Upon examination of the broker price series, it is clear that it closely tracks with the Rotterdam price series as demonstrated in Figure 2. Once the peanut quota program concluded, the price aligned and moved together to reflect changes in prices in the shelled peanut market. Typically, although not in all instances, the Rotterdam price was higher and reflected the transportation and transaction costs as well as the price premium received for exported peanuts. Since the broker price series reflected a domestic price of shelled peanuts without the necessity to assess a price premium value based on oversees transportation and transaction costs, it was utilized as the

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[3] See Borges, Robert B., Walter N. Thurman, and Randal R. Rucker. 1994: "The Effects of the GATT on U.S. Peanut Markets." GATT Research Paper 92-GATT 23, Center for Agricultural and Rural Development, Iowa State University, Ames, IA.

[4] See Corey, Roger, et al. 1990: "Estimated Tariff Equivalents of U.S. Quotas on Agricultural Imports and Analysis of Competitive Conditions in U.S. and Foreign Markets for Sugar, Meat, Peanuts, Cotton, and Dairy Products." Report to the President on Investigation No. 332-281 under Section 332(g) of the Tariff Act of 1930, as amended, pp. 4-1 to 4-34 (115-148).

series to represent the price of shelled peanuts in the first stage of pricing assessments for the peanut crop insurance program. The Rotterdam price series has been maintained as well to provide an additional source of information that validates the representative shelled price.

Per the description of the two stages of price estimation, the shelled price index is attuned to reflect a price level that might be expected by growers for their crops in a given year prior to the sales closing date for the crop insurance program in the given area.

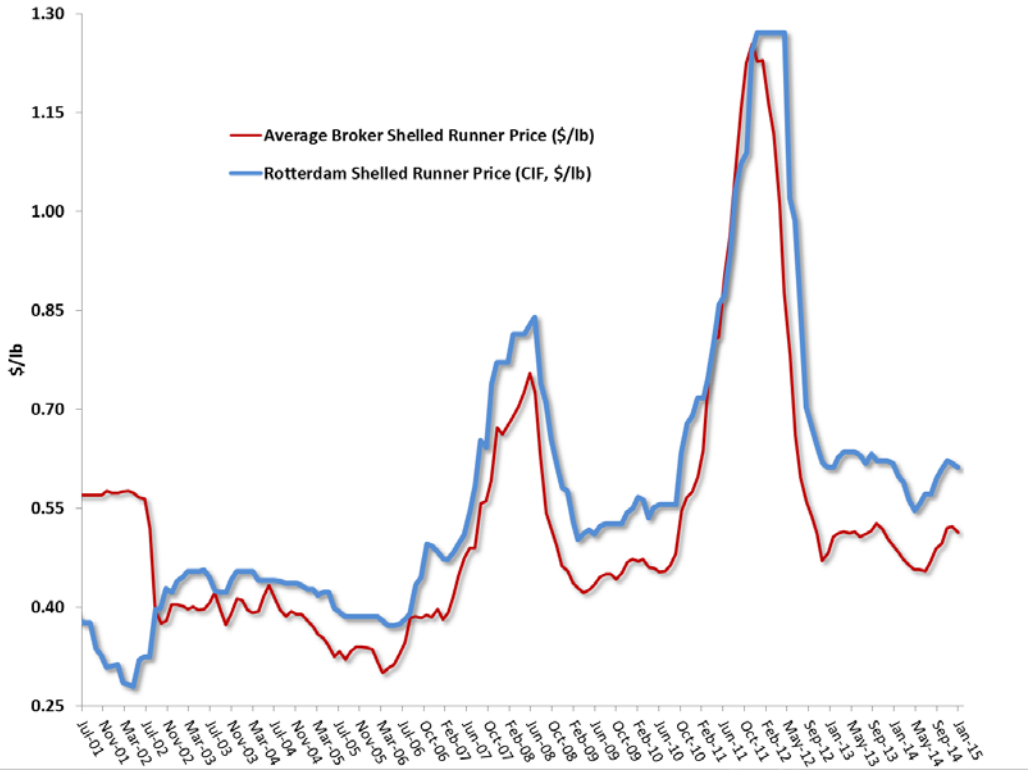

Figure 2: Shelled medium runner peanut prices, in dollars per pound, from 2001 through 2015 (Data Source: domestic peanut brokers and Rotterdam prices from Oil World)

Conclusion

This report outlines the adjustments made in formulating prices used for the peanut crop insurance program. As specified by the Agricultural Act of 2014, peanut revenue insurance was to be offered beginning in the 2015 crop year. A pricing methodology was developed and data were used to assess peanut prices for insurance offers that adhere to this specification. A refinement made in the process is the use of a shelled peanut price series based on information provided by a number of domestic peanut brokers instead of the Rotterdam peanut price series. Although the Rotterdam series seems to adequately reflect pricing information and changes that reflect activity in the U.S. peanut market, the use of data directly from peanut brokers requires less adjustment and tracks well with the Rotterdam series. Use of the peanut broker data is preferred for the Peanut Revenue Insurance program because it will be more accurate since it is a U.S. based price requiring fewer adjustments.